Amendments to the Claims:

1. (currently amended)   A microprocessor apparatus comprising:

a program counter for storing a program count value;

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a processing unit coupled to the program counter comprising:

    (a)   an instruction fetching means coupled to the program counter for reading program instructions according to the program count value and storing fetched instructions in a buffer; and

10   (b)   an instruction decoding means coupled to the instruction fetching means for decoding and dispatching buffered instructions for execution;

a read only memory coupled to the processing unit for storing a first ~~afirst~~ program;

15   an auxiliary programmable-memory coupled to the processing unit for storing patches to replace corresponding instructions in the first program ~~along with a table containing a replacement program count value for each patch~~; and

a controller coupled to the program counter and the processing unit for passing an
20   indirect branch instruction corresponding to one of the patches to the processing unit in response to a match between the program count value and an initializing ~~aninitializing~~ program count value~~,~~;

wherein the processing unit is for executing the indirect branch instruction ~~will~~ to
25   thereby insert a ~~the~~ replacement program count value corresponding to the match into the program counter.

2. (currently amended)   The microprocessor apparatus in claim 1 wherein the controller

further comprises:

a register for <u>storing the</u> ~~storingthe~~ initializing program count value.

3. (currently amended)   A method for executing patch program segments in lieu of

corresponding parts in a first program comprising:

(a) <u>comparing a</u> ~~comparinga~~ program count value of a program counter with <u>an</u>
<u>initializing</u> ~~aninitializing~~ program count value;

(b) inserting an indirect branch instruction with an index into a buffer of an
instruction fetching means when a match is made in step (a);

(c) <u>executing the indirect branch instruction by a processing unit to thereby access</u>
~~accessing~~ a table in an auxiliary programmable memory according to the index of
the indirect branch instruction; and

(d) changing the program count value of the program counter <u>by the processing unit</u>
according to <u>an entry in</u> the table ~~entry~~ <u>as a result of executing the indirect branch</u>
<u>instruction.</u>

4. (currently amended)   The method in claim 3 further comprising:

(e) ending ~~the~~ <u>a finished</u> patch <u>program segment</u> with a terminating instruction
branch.

5. (currently amended)   The method in claim 4 <u>wherein the first program is stored in a</u>
<u>read only memory, the method</u> further comprising:

branching back to the first program in the read only memory with the terminating
branch instruction.

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